Board Composition and Firm Performance: Does Board Monitoring Intensity Mediate the Relationship in Emerging Markets?

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The purpose of this paper is to investigate the effect of board composition on firm performance and further examine whether the effect is mediated by board monitoring intensity. This paper uses a panel data of 137 firms listed on stock exchanges in Ghana and Nigeria over a period of seven years. System Generalized Method of Moments, Baron and Kenny (1986) approach and Sobel test were adopted as estimation techniques for the study. The study reveals that board independence, skills and gender diversity is positively and statistically related to firm performance. The result of the study reveals that board size, skills and independence are positively related to board monitoring intensity. The study further reveals that relationship between board independence and board skills and firm performance is mediated by board monitoring intensity. However, board monitoring intensity partially mediates the relationship between board size and firm performance.

Keywords: Board Composition, Mediation, Monitoring Intensity, Firm Performance

INTRODUCTION

The purpose of this paper is to investigate the effect of board composition on firm performance in emerging market context. This is done through exploring whether board composition affects firm performance and if so, whether the effect is mediated by board monitoring intensity. The monitoring role of directors in recent times has received significant attention by researchers following many corporate scandals that have been hitting the business environment since the past decade. Board composition such as board size, independence and gender diversity seem to be important means by which firm can improve board monitoring effectiveness and enhance firm performance. Whereas the importance of these board attributes has gone unnoticed, there seems to be a lack of consensus of the impact of these attributes on firm performance (Rashid et al. 2018; Bendickson et al. 2016). For instance, a recent study carried out in Ghana, Darko et al. (2016) estimated regression-based coefficient on independent director variable which shows that the variable adversely influences firm performance. However, Agyemang et al. (2017) showed non-significant relationship between board independence and firm performance.

Despite increase research interest in board attributes and firm performance in recent years, a review of recent prior empirical studies reveals a number of discernible weaknesses. First, findings of prior empirical studies on the relationship between board attributes and firm performance have been mixed. However, demonstrated effort at explaining why there is mixed finding is limited. Arguably, such a limitation in literature prevents a comprehensive understanding of the effectiveness of board attributes. Second, despite growing interest in board diversity and skill in recent corporate governance reforms, prior empirical studies on board composition and firm performance have concentrated on board size and board independence (Allam 2018; Arora (2016). Third, board attributes and firm performance have been extensively researched, however these studied mainly link board attributes to different aspect of the firm though agency theory suggest that board composition enhances board functions (Yeh et al. 2018; Bart and McQueen, 2013) and improves various aspects of the firm. By contrast, there is a dearth of empirical studies exploring the possibility of board function serving mediator between board attributes and firm performance. Finally, notwithstanding the importance of emerging economies
around the world, studies on board attributes and firm performance have concentrated in developed markets with similar contextual factors. In contrast, the emerging market has different institutional and economic factors (Song et al., 2015; Ntim et al. 2016) that can influence the link between board attributes and firm performance. Accordingly, the effects of board composition, monitoring intensity, and firm performance can be expected to be different from firms in developed economies. Therefore, investigating the link between board composition and firm performance Ghanaian and Nigerian context where empirical literature is limited will contribute to a holistic understanding of board effectiveness in the emerging markets. Moreover, Ghana and Nigeria provide an interesting emerging market context to study the relationship between board composition and firm performance. Ghana and Nigeria following the call for reforms in corporate governance framework have embarked on various reforms aimed at enhancing the corporate governance practices, protect shareholders, and promote effective monitoring of managers. In Nigeria, such reforms are reflected in the Code of Corporate governance best practice in 2003 and 2011. The Security and Exchange Commission of Ghana issued a Code of Best Practices in 2010. However, to date, empirical studies to the best of our knowledge do not distinctively consider the implication of provisions in these reforms on board monitoring intensity and firm performance. Consequently, the study seeks to contribute to corporate governance literature in different ways.

The result of the study reveals that board size, skills, gender diversity, and independence are positively related to firm performance. The study further reveals that the relationship between board independence and board skills and firm performance is mediated by board monitoring intensity. However, board monitoring intensity partially mediates the relationship between board size and firm performance.

The remainder of the paper proceeds as follows. In Section 2, we present a theoretical background and build up the research hypotheses. In section 3, we describe the data and research design of the study. The results of the study are captured and discussed in section 4. Conclusions and implications are considered in section 5.

THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

Board Size

Agency theory describes the size of the board depicting the level of control exercised by management. This theoretical view places the size of the board as a critical component of the corporate board in ensuring monitoring intensity and improving firm performance. Following these theoretical predictions and viewpoints, previous studies (Song et al., 2015) have investigated the impact of board size on monitoring managers, setting their compensation, and enhancing the firm's value. Empirical studies on board size posit that smaller boards are more efficient than a larger board. They argued that smaller boards enjoy better communications and interactions between them (Yu et al., 2015; Gray, 2016) and this makes it more effective than a larger board. Gray (2016) also observes that firms with smaller boards are associated with higher market value.

In contrast to the effectiveness of smaller board size, other empirical studies provide evidence that larger boards are more effective than smaller boards. They argued that larger boards can provide better monitoring because of more time and experience (Bryman, et al., 2015; Bierwerth et al., 2015). Bierwerth et al., (2015) supported this argument that board monitoring is related to larger boards because of the ability to share workload over more of directors. Evidence is provided by other studies (Cendrowski, 2015; Yu et al, 2018) that firms' larger boards are related to lower levels of earnings management.

In respect to Ghana and Nigeria, whereas the code of best practices in Ghana in 2010 recommends 8-16, Nigeria code of best practices 2011 does not give ceiling. This, therefore, places the issue of board size as contextual issues in these two countries. Therefore, this study conjectures that board size is related to firm performance. Accordingly, H1: Ceteris paribus there is a positive relationship between the board size and monitoring intensity and firm performance.

Board Independence

Board independence explains the presence and participation of outside directors without a substantial business relationship with the focal firm. Agency theory suggests that the presence of independent directors on the board is beneficial to the firm. Besides, independent directors can solve disagreements among the internal managers or between the internal managers and residual claimants. Boards made up of independent directors will provide a counterbalance so that the insiders do not take advantage of their position and sacrifice the shareholders' wealth.
Palmberg, (2015) generally agree that effective boards consist of greater proportions of outside directors without any relationship with the firm. Al-Bassam et al. (2015) report that firms with more independent board members realize a higher return on equity. Several other researchers have also reported a positive relationship between independent director representation and firm performance (Al-Janadi, 2016).

Another opposing theoretical proposition is that insider directorship has also been found to have better knowledge about the company and the industry where the company operates. Therefore, their experience can impact positively on the performance of the firm (Knauer et al. 2018). There is also an intermediate position taken by some authors who (see Bottenberg et al., 2017) do not find any conclusive evidence. This is the result of an insignificant relationship between the proportion of independent directors and firm performance (Bhagat & Bolton, 2013).

In respect to Ghana and Nigeria, the issue of independent directors on the board is comprehensively addressed by the 2010 and 2011 corporate governance Codes. It is expected that independent outsider dominated boards will positively affect the effectiveness of board monitoring and improve firm performance. Accordingly, we hypothesize that:

H2: Ceteris paribus there is a positive relationship between board independence and monitoring intensity and firm performance.

Board Gender Diversity

Gender diversity in corporate boards in Africa is a major concern because of the low participation of women in corporate decision making (Assonmie, 2018). This is evident in empirical studies in Ghana (Agyapong and Appiah, 2015). This study report that women are not represented in both public and private boards. The situation in Nigeria is not different from Ghana. Adodegne (2015) reports that board representation favors males than females. For this reason, various policies are being developed to improve female representation on the corporate board in Ghana and Nigeria. Nigeria has signed various international agreements aimed at eliminating gender discrimination. In Europe for instance, the importance of gender diversity on the corporate board is seen in major board reforms. In the UK, for example, the government requires a minimum of a quarter of the board to be female directors (Sealy and Vinnicombe, 2012).

According to agency theory, diversified boards are crucial in improving board function and enhancing firm performance. Gender diversity is seen to be a key determinant of firms’ operational efficiency McQueen, 2016). There is other empirical evidence establishing a positive relationship between gender diversity and firm performance (Cendrowski et al, 2015). They argued that the additional expertise and experience brought to the board by female members enhance the board’s ability to exercise their monitoring role effectively.

On the contrary and consistent with the conflicting nature of prior studies on the relationship between gender diversity and firm performance, other studies (Balmier, et al., 2017) observe that women representation on board can potentially affect performance negatively.

In the Ghanaian and Nigerian context as discussed, various policy initiatives are directed at enhancing female representation on corporate boards. The Code of best practices in Ghana states that the board appointment should be fair and transparent. Though there have been mixed international evidence, invoking agency propositions that suggest that more female representation help to diversify corporate board and the fact that board diversity is associated with improved firm performance, this study conjecture that the presence of female will enhance the board monitoring intensity to improve performance. Therefore,

H3: Ceteris paribus there is a positive relationship the presence of board gender diversity monitoring intensity and firm performance.

Board Skill

Agency theory suggests that agency costs arising as a result of separating ownership from management. This theory further posits that managers select accounting practices that increase their perks through compensation packages thereby reducing their political cost. As part of the monitoring process of the board, it is expected that the board facilitates the production of quality financial information by ensuring that they monitor the financial reporting process. To be able to perform such a crucial function, the board is expected to have accounting and financial knowledge, skills, and competence.

Empirically testing these assertions, Dalwai et al., (2015) observe that lack of knowledge on the part of the board caused the collapse of Enron and WorldCom. Empirical evidence (Al-Janadi, et al., 2018) suggests that one key determinant of board monitoring of financial statement process is financial expertise. For instance, Assenga et al., (2018) observe the importance of having accounting knowledgeable outside directors on the firm board. In a similar agency theoretical context some studies, for example, Aguiera et al, (2015) observe that having board members with finance experts can help to improve the financial reporting process. In sum, the empirical evidence reveals that directors serving on a corporate board must have financial expertise. Absence of this may affect the ability to monitor management, and hence increase the level of agency conflict.

The Codes of best practices in 2010 and 2011 in Ghana and Nigeria address comprehensively the issue of financially knowledgeable persons on the board. These codes further recommend the audit committee and remuneration committees of the board to have financial expertise. For example, the issue of financial expertise on
the corporate board was first recognized under Section 359 (3) and (4) of the CAMA. This was further stressed in the code of 2011. The expectation is that board members with finance and accounting will improve the financial reporting process, monitoring the function of the enhance firm performance. Accordingly, H4: Ceteris paribus boards with financial expertise are positively related to monitoring intensity and firm performance.

**Board Monitoring Intensity and Firm Performance**

From an agency theory perspective, effective boards provide the necessary monitoring of managers. This implies that corporate boards as part of their responsibilities are expected to evaluate the performance of the firm periodically and take the necessary action where necessary to protect the interest of shareholders. Al-Sager et al., (2018) highlights the role of governance mechanisms in improving firm performance.

One theoretical viewpoint that runs through empirical studies is that board monitoring intensity is associated with firm financial performance. For instance, Al-Sahafi et al., (2015) observe that when board meetings are conducted frequently, board monitoring intensity improves thereby impacting positively on corporate financial performance. Allam (2018) argued that monitoring managers intensively enable directors to have a better understanding of critical developments occurring in the firm. Therefore, directors are better position to take decisions to address the problems affecting the firm and improve performance. Other empirical studies (Balafas, (2014) provide evidence that board monitoring intensity enables directors to control the moral hazards.

In contrast to the above evidence, other prior studies observe monitoring managers intensively affect firm performance negatively. For instance, empirical studies Dalwai, 2015 observe that CEOs do not share critical information with the board members when the monitoring of managers is intense. Arora and Dharwadkar (2016) posit that managers are normally monitoring intensely when the firm is troubled. Evidence provided by Agyemang et al, (2017) suggests that intense monitoring can be costly in the form of managerial time, travel expenses, refreshments, and directors’ allowances and fees and this reduced the firm performance. The code of best practice in Ghana, for instance, recommends that corporate boards should meet at least four times in a year. Consistent with agency theory proposition, the code of best practices in Ghana and Nigeria expect intense monitoring to impact on firm performance. Accordingly, this study conjectures that:

H5: Board monitoring intensity is positively related to firm performance.

**The Mediating Role of Board Monitoring Intensity**

From the agency theory perspective, two major opposing ideas exist in the empirical literature on the relationship between board composition and firm performance (Rashid, 2018). A major strand of empirical literature indicates that there is a direct relationship between board composition and firm performance. For instance, Mishra et al. (2015) conclude that board gender diversity has no positive effect on firm performance. Mishra et al., (2015) also find that having board members with finance experts can help to improve financial performance. In a similar situation, Palmberg, (2015) indicates that effective boards consist of greater proportions of outside directors and this tends to improve firm performance. Although the direct relationship between board composition and firm performance has been extensively studied, empirical evidence remains mixed and conflicting. For instance, whereas (Yesser et al., 2015 and Dale-Olsen et al., 2016) observe that women representation on board can potentially affect performance negatively, Mallin et al (2015) find no relationship between gender diversity and firm performance.

Another opposing viewpoint though less studied indicates that there is an indirect path through which board composition affects firm performance. Yu’s (2015) theoretical model indicates how board task performance acts as an intervening construct between board processes and firm performance. A variable may be said to act as a mediator to the extent that the variable may account for the relationship between an independent variable and a dependent variable (Baron and Kenny, 1986).

Agency theorists regard board monitoring and control function as the main function of the corporate board (Knauer, et al. 2018). Agency theory suggests that board size shows the extent of board control over management. Arora and Dharwadkar, (2016) also observe that high performing firms are usually associated with intense managerial monitoring. Further, they argue that board attributes are antecedent to task performance including board monitoring. Inferring from agency theory, this study conjectures that board monitoring effectiveness acts as a mediator, or intervening construct, between board composition and firm performance.

In the Ghanaian context, Agyemang et al (2017) posit that board size has a significant positive impact on profitability. In Nigeria, empirical studies Ajagbe, 2017; Solomon et al., 2015) show that board monitoring is related to firm performance. In a similar context, Olawumi et al. (2015) observe that there is a negative relationship between board size, independence, and board monitoring. This presupposes that such composition will help the board to perform its functions to improve firm performance. It can be inferred from these discussions that board composition
variables are likely to have a positive effect on board monitoring intensity and board intensity will positively impact on firm performance hence, the sixth hypothesis to be tested is:

H6(a-d): Board monitoring intensity mediates the relationship between Board composition: a) size, b) independence, c) gender diversity, d) skill and firm performance.

METHODOLOGY

Data Set

This study aims to examine whether board composition affects firm performance and if so, whether the effect is mediated, fully or partially, by board monitoring intensity. The target firms for the study include all companies listed on the stock markets in Ghana and Nigeria. The reason for the selection of these stock markets is twofold. First, Nigeria and Ghana (except South Africa) stock exchanges are the most active and largest in the sub-Saharan region in terms of the number of companies listed and market capitalization valued at $114.2 and $28.2 billion respectively as at 2013 (African Securities Exchanges Association, 2014). Second, they share a number a common attribute: (i) they are all countries of Anglo–Saxon origin with similar accounting, auditing, corporate governance mechanisms, and legal systems; (ii) they have adopted the international financial reporting standards; and (iii) they have similar corporate law and ownership structures (Ntim, 2016).

In all 224 companies were listed in these two stock markets as in 2013. Consistent with prior studies (Ntim, 2016; Song et al. 2105) financial and insurance companies are excluded from the sample as well as those that have gone through mergers and acquisitions. The reason for their exclusion is that these industries are tightly regulated and secondly, they are heavily geared. This has proven to have different effects on governance mechanisms and it is appropriate for them to be separately analyzed (Ntim, 2016; Agyemang et al., 2017).

The time horizon for the study is 2010-2016. The reason for the selection of this period is in two folds. First, 2010 is the start period. It was the earliest year for which the required data was available for all the variables across the two countries and ends in 2016 because it is the most recent period for which data is available. Second, this is to ensure that the results are current and remain relevant. After deleting companies without data for the period, a sample of 137 companies is obtained resulting in a 959 firm-year observation. The data for the study are obtained from secondary sources. Annual reports of companies listed on the Ghana and Nigeria Stock Exchanges constitute the main data source. Annual reports are collected from Ghana and Nigeria's physical library. This is supported by data drawn from GSE and NSE Fact Books 2 (also obtainable from the GSE and NSE Library).

Measurement of Variables

Dependent Variables

In general, firm performance is classified mainly in two ways. These are market measures and accounting measures. In this paper, we use return on assets (ROA) and Tobin’s Q as performance measures. We measure ROA as the ratio of Earnings before Interest and Taxes to Total Assets (EBIT/TA) and Tobin’s Q as (market value of equity plus total debt)/total assets.

Independent Variables

Board Size (BSIZE)

This is measured as the ratio total number of directors to the natural log of total sales. This is different from the measurement used in other empirical studies (Ntim, 2016). Larger firms are expected to have larger board size and smaller firms are expected to have a small board size. In small firms, little separation of ownership and control presumably exist resulting in less management-board conflicts. This implies that small firms may need a small board size. On the other hand, large firms are characterized by a high level of agency conflict requiring large board size to mitigate the agency conflict.

Board independence (BID)

This paper defines board independence as a proportion of outside directors who are independent of the management, and free from any business or other relationship which could interfere with the exercise of independent judgment or the ability to act in the best interest of the stakeholders. BID is computed as the total number of outside independent directors on the board divided by the total number of board members.

Board Gender Diversity

This paper uses the Blau index to measure board gender diversity. Unlike other measurements of board gender diversity, the Blau index is recently used because of its ability to measure evenness and heterogeneity of the diversity (Carter et al., 2010; Darmadi, 2011). This is computed as follows:

\[ P_i = \frac{1}{n} \sum_{i=1}^{n} P_i^2 \]

\[ P_i = \text{Percentage of board members in each category}, \quad n = \text{number of categories} \]

Board Skill (BSKIL)

This is measured as is the proportion of board members with qualifications or experience in accounting or finance, including those who are members of accounting professional bodies. It is calculated as the total number of board members with financial expertise divided by the total number of board members.
Board Monitoring Intensity

Board monitoring intensity is proxied by the frequency of board meetings (FBM). This is measured as the number of formal meetings (excluding telephone meetings) held by the entity in a financial year.

Control Variables

Consistent with Ntim et al., (2015: Darko et al., (2016) some control variables are considered in the study. These include firm size, leverage, firm age, and country effect. Firm size is measured as the natural logarithm of total assets. Leverage is measured as total liabilities divided by total assets at year-end. The age of the firm is measured as a natural logarithm of the age of the firm from the date of incorporation. The country effect is measured as a dummy variable. The country effect is coded 1 when the firm is a Nigerian firm otherwise 0.

Empirical Models

The general panel equation to be estimated takes the following form:

\[ y_{it} = \delta + \theta_1 BSIZE_{it} + \theta_2 BID_{it} + \theta_3 BGEN_{it} + \theta_4 BSKILL_{it} + \beta X_{it} + \lambda_i + \epsilon_{it} \]

Where:

- \( FP \) = Firm performance measured in two different ways, ROA as the ratio of Earnings before Interest and Taxes to Total Assets (EBIT/TA) and Tobin’s Q, as (market value of equity plus total debt)/total assets
- \( BID \) = the proportion of outside directors on the board with no business relationship with the firm
- \( BSIZE \) = The ratio of the number of directors on the board of the firm to log total sales
- \( BGEN \) = Blau index
- \( BSKILL \) = The proportion of board members with qualifications or experience in accounting or finance, including those who are members of accounting professional bodies.
- \( FGAGE \) = Natural logarithm of age of the firm from date of incorporation.
- \( FSIZE \) = natural log of book value of total assets at year-end
- \( LEV \) = total liabilities divided by total assets at year-end
- \( BMI \) = The number of formal meetings (excluding telephone meetings) held by the entity in a financial year.

Estimation Techniques

This study adopts the generalized method of moment to test the hypothesis described earlier. Using system GMM estimator is capable of accounting for the problem of endogeneity which is normally ignored by other studies. The data used in this study consists of the individual firm over time as described and this estimator offers the possibility of controlling the unobserved heterogeneity between individuals with panel data methods. This implies that the lagged dependent variable is likely to be correlated with the error term in the model. In such a situation, estimating the above equation using ordinary least square (OLS) estimator results in inefficient and biased estimates. To treat this problem and use OLS to estimate the model, the equation is transformed by differencing the time-series means of each variable for each firm. Though differencing the time-series means of the variables eliminates the individual firm-specific effects, \( \lambda_i \) because it does not vary with time, the correlation between \( (y_{it-1} - \bar{y}_i) \) and \( (\bar{\epsilon}_i - \bar{\epsilon}) \) remains. This again renders the estimate inconsistent. Thus, to deal with this problem, the first-differenced GMM attributable to Arrelano and Bond (1991) is used. This estimator uses the lagged level of the dependent variable and other endogenous explanatory variables as instruments for the first-differenced equation. In light of this, it becomes essential to use the system GMM which provides consistent and efficient estimates.

Test for Mediation

In this paper, the approach of Baron and Kenny (1986) is used to analyze the mediating effects of board monitoring intensity on the relationship between corporate governance and firm performance. In testing for the mediating effect, using this approach, three steps are involved. First, \( Y \) as the dependent variable is regressed on \( X \) as an independent variable. Second, \( M \) as the mediator variable is regressed on \( X \) as an independent variable. Third, \( Y \) as the dependent variable is regressed on \( X \) as an independent variable and \( M \) as mediator simultaneously.

RESULTS AND DISCUSSION

Results of Diagnostic Tests

Empirical studies indicate that endogeneity problem may be caused by problems of omitted variables, reverse causation, measurement errors, and equilibrium conditions. In this paper, we address the problem of endogeneity and respond to positive accounting researchers’ call.

In resolving the above problem, we follow the steps proposed by locker and Rusticus (2008). First, we use seven-year panel data as it has proven to reduce endogeneity (Ntim, 2015). Second, several control variables are introduced in our model to reduce the omitted variable problem. Third, the presence of endogeneity is tested using the Durbin-Wu-Hausman exogeneity test.
The results of the Durbin-Wu-Hausman exogeneity test show that coefficients of the main variables for under return on assets and Tobin’s Q are statistically significant implying that the key board variables are endogenously related firm performance. Accordingly, the adoption of the system GMM described above is influenced by these results.

The overall model is also investigated for the presence of multicollinearity by conducting the Pearson correlation tests among the variables and variance inflation factor. For the sake of brevity the results are not reported, (available upon request) but indicate that no significant multicollinearity problems were present among the variables.

**Descriptive Statistics**

Table 1 presents the descriptive statistics of the main variables used for the study. These include board independence, board size, independence skills, gender diversity firm age, leverage, and firm size.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Dev.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Asset</td>
<td>0.21</td>
<td>0.06</td>
<td>0.12</td>
<td>0.39</td>
</tr>
<tr>
<td>Board Size</td>
<td>7.52</td>
<td>1.57</td>
<td>2.0</td>
<td>12.12</td>
</tr>
<tr>
<td>Board Gender</td>
<td>0.02</td>
<td>0.38</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Board Skill</td>
<td>1.44</td>
<td>0.69</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Board Ind.</td>
<td>1.85</td>
<td>0.55</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Tobins’ Q</td>
<td>0.29</td>
<td>1.86</td>
<td>0.18</td>
<td>0.35</td>
</tr>
<tr>
<td>Freq. of B. M</td>
<td>9.5</td>
<td>4.2</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Firm Age</td>
<td>26.35</td>
<td>63.94</td>
<td>10</td>
<td>46</td>
</tr>
<tr>
<td>Firm Size</td>
<td>8.49</td>
<td>2.99</td>
<td>18745</td>
<td>5.75</td>
</tr>
<tr>
<td>Leverage</td>
<td>10.13</td>
<td>52.87</td>
<td>5.214</td>
<td>64.13</td>
</tr>
</tbody>
</table>

(Number of Observations: N = 959)

The result also reveals that the mean board size is around 7 members as a board with the maximum and minimum of 13 and 5 respectively. The standard deviation of 1.5 suggests that there is relatively low dispersion. It can further be observed that the overall board of the sampled firms is relatively less independent as they are mostly dominated by inside directors. The firms sampled had at least one member of the board as an independent outside director and a maximum of five. Further investigations reveal a mean of 24.73% of the director’s independent outside directors. However, the discrepancy could be attributed to the measurement of independent director’s use in this study as compared to prior studies.

Relating to females on firm boards, the sampled firms had at least one female and a maximum of five. The low proportion of females on boards could be attributed to cultural factors preventing females to occupy executive positions. There is much yet to be done to improve upon the situation. The sampled firm has at least one member as a financial and/or accounting expert serving on the board and a maximum of three members.

**Analysis of Regression Results**

The results of the regression are analyzed in this section. Table 2 presents the results of the regression results from model 1 to model 4.

In general, the model of board monitoring intensity is upheld as all the four hypotheses were supported. It can be observed from model 1 of Table 2 that board size; independence and board skills and gender diversity significantly influence firm performance. This implies that as board size increases firm performance improves. Concerning board independence, there is a statistically significant positive relationship at ten percent between board independence and firm performance. However, it can be observed that there is a negative and statistically insignificant relationship between board gender diversity and board monitoring intensity. This result implies that board gender diversity does not improve board monitoring intensity.

As indicated earlier, Baron and Kenny (1986) present the various stages to validate the effect of the mediator variable in a model. First, it involves establishing a significant relationship between the independent variable(s) and the possible mediator. Second, the independent variable significantly influences the dependent variable. Third, simultaneously regressing the dependent variable on the independent and mediator variables. To establish that board monitoring intensity fully mediates the relationship between board composition and firm performance in our model, two conditions should be met: the mediator should significantly be related to the dependent variables, the relationship between the independent variables, the mediator and the dependent variable must appear less or non-significant when the mediator variable is added to the model as one of the predictors of the dependent variable. In contrast, partial mediation is observed when the relationship between the independent variables and the dependent variable remains significant after introducing the mediator variable in the model.

The introduction of board monitoring intensity into the model as a proposed mediating variable reveals that board size is positively associated with firm performance and statistically significant. However, the coefficient reduced from 10.30 to 6.15. It can be concluded that board monitoring intensity mediates the relationship between board size and firm performance partially supporting hypothesis 6a. Furthermore, the significance of board gender diversity and firm performance is maintained as the board monitoring intensity is introduced into the model.
The implication of these results is that hypothesis 6c is not supported indicating that board monitoring intensity does not mediate the relationship between board gender diversity and firm performance.

In contrast, the significance of board independence and skill disappeared when board monitoring intensity is introduced into our model. The implication is that board monitoring intensity mediates the relationship between board independence and firm performance. Evidence is also obtained to strongly support hypothesis 6d that the relationship between board skills and firm performance is also mediated by board monitoring intensity. The implication of this result suggests that board monitoring intensity fully mediates the relationship between board skills and firm performance.

Additional Analysis

So far our analysis uses the Baron and Kenny (1986) approach. To test the consistency and efficiency of the estimate, a Sobel test is also conducted as robustness checks. The results of the Sobel test (available upon request) is consistent with Baron and Kenny (1986) approach suggesting that board monitoring intensity mediates the relationship between board independence, skills, and firm performance. However, the result indicates that board monitoring intensity does not mediate the relationship between board gender diversity and firm performance. The results also indicate the board monitoring intensity partially mediates the relationship between board gender diversity and firm performance. The results also indicate the board monitoring intensity fully mediates the relationship between board size and firm performance. Accordingly, the study re-estimated the equation using Tobin’s Q. The results obtained (available upon request) suggest that the findings of the study are not sensitive to the measurement of firm performance.

The results suggest that the relationship between board size and firm performance and monitoring intensity is

### Table 2: Regression Results of the study

<table>
<thead>
<tr>
<th>Variables</th>
<th>Expected sign</th>
<th>Firm performance (ROA) Model 1</th>
<th>Board Intensity Model 2</th>
<th>Monitoring Firm performance (ROA) Model 3</th>
<th>Firm performance (ROA) Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board size</td>
<td>+</td>
<td>10.30* (-1.35)</td>
<td>11.62** (4.26)</td>
<td></td>
<td>6.15* (1.22)</td>
</tr>
<tr>
<td>Board independence</td>
<td>+</td>
<td>0.837** (2.36)</td>
<td>9.316* (1.87)</td>
<td></td>
<td>0.32* (1.21)</td>
</tr>
<tr>
<td>Board Gender Diversity</td>
<td>+</td>
<td>1.082** (2.06)</td>
<td>-16.12* (0.39)</td>
<td>-1.21** (-2.13)</td>
<td>-0.78* (-2.23)</td>
</tr>
<tr>
<td>Board skills</td>
<td>+</td>
<td>-0.907** (-3.11)</td>
<td>23.211** (1.64)</td>
<td></td>
<td>-0.78* (-2.23)</td>
</tr>
<tr>
<td>Firm size</td>
<td>+/-</td>
<td>-0.190** (-2.33)</td>
<td>0.424** (12.75)</td>
<td>0.020* (-1.21)</td>
<td>0.017* (1.10)</td>
</tr>
<tr>
<td>Firm age</td>
<td>+/-</td>
<td>84.085 (0.75)</td>
<td>0.677*** (20.01)</td>
<td>-0.241** (1.70)</td>
<td>-0.241** (1.70)</td>
</tr>
<tr>
<td>Leverage</td>
<td>+/-</td>
<td>0.06 (0.049)</td>
<td>-0.23 (10.24)</td>
<td>-0.07 (-1.31)</td>
<td>-0.07 (-1.31)</td>
</tr>
<tr>
<td>Board monitoring intensity</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
<td>0.42** (1.74)</td>
<td>0.344** (2.22)</td>
</tr>
<tr>
<td>Country Dummy</td>
<td></td>
<td>2.15 (1.70)</td>
<td>4.23 (0.23)</td>
<td>2.15 (1.70)</td>
<td>1.23 (1.23)</td>
</tr>
<tr>
<td>Performance(lagged)1</td>
<td>+</td>
<td>0.025 (-2.21)</td>
<td>-</td>
<td>0.124 (-0.31)</td>
<td>0.015 (-0.41)</td>
</tr>
<tr>
<td>Board monitoring lagged 1</td>
<td>+</td>
<td>-</td>
<td>1.123 (-0.21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of observations</td>
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<td>959</td>
<td>959</td>
<td>959</td>
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<tr>
<td>Number of firms</td>
<td></td>
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<td>137</td>
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<tr>
<td>Test of autocorrelation</td>
<td></td>
<td>AR(1) 2.12* AR (2) 2.41</td>
<td>AR(1)2.13** AR (2) 2.91</td>
<td>AR(1) 2.12* AR (2) 2.62</td>
<td>AR(1)1.11*** AR (2) 2.24</td>
</tr>
<tr>
<td>Sargan test</td>
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<td>0.701</td>
<td>0.715</td>
<td>0.721</td>
<td>0.705</td>
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<tr>
<td>F-Value</td>
<td></td>
<td>6.34*</td>
<td>7.31***</td>
<td>5.24*</td>
<td>5.31**</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>21</td>
<td>473</td>
<td></td>
<td>473</td>
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***denotes significance at 1% level, ** denotes significance at 5% level, * denotes significance at 10% level. The t-statistics are provided in parentheses. To conserve space, regression results for Ghana and Nigeria combined are presented. Separate regression results for Ghana and Nigeria do not differ significantly and does not materially change the findings and conclusions. However, they are available upon request.
statistically significant. This result is consistent with agency theory describing the size of the board to depict the level of control exercised by management. Other theories such as managerial hegemony theory believe that if management dominates the board. This evidence is also consistent with the findings of previous studies that observed a significant relation between board size and firm performance. Yu et al., (2015) obtained evidence to support the effectiveness of smaller boards in monitoring CEO, resulting in reduced coordination and free-rider problems (Gray et al., 2016).

Theoretically, this study supports agency theory preposition which advocates for the appointment of independent directors to improve the monitoring and firm performance. This is because the result of the study shows that the relation between board independence and firm performance is positive and statistically significant. Empirically, this result is consistent with Palmberg (2015) that generally agree that effective boards consist of greater proportions of outside directors without any relationship with the firm. More recently, several other researchers have also reported a positive relationship between independent director representation and firm performance (Dale et al., 2016). These studies generally observed that independent directors are desirable because of their breadth of knowledge and experience, as well as their independence from corporate management (Uribe-Bohorquez et al., 2018). Contextually, this result offers empirical support for the call of many corporate governance codes specifically that of Ghana and Nigeria for independent directors to represent the majority of the members of the board. It is argued that when the board is dominated by independent directors, there is motivation to carefully monitor managers and this is expected to realign the interest of management to that of shareholders. The appointment of independent directors enables the board to monitor management because of their breadth of knowledge and experience, as well as their independence from corporate management and it sends signals to the investment community that the shareholders’ interest is protected. This subsequently improves firm performance. The result of this study suggests that board gender diversity positively affects a firm’s performance. This implies that, as more females are appointed on a corporate board in the sampled firms, the organization’s performance improves. This result is consistent with agency theory preposition indicating that firms with more diversity (see Bart and McQueen, 2016), have a greater urge to perform their monitoring function and improve firm performance. According to agency theory, diversifying boards are crucial in improving board function and enhancing firm performance. Gender diversity is seen to be a key determinant of firms’ operational efficiency (Bart and McQueen, 2017). These studies observe that in general, there are currently limited directors and there are increasing rates of CEOs rejecting invitations to join boards. And men currently serving on boards do not have the time to take on additional responsibilities. Therefore, this makes the continual dependence of men to dilute the quality of the board. According to Carter et al (2010), gender diversity has a direct impact on corporate performance because of its ability to improve the audit function of the board. There is other empirical evidence establishing a positive relationship between gender diversity and firm performance (see Dale-Olsen et al., 2017). The additional expertise and experience brought to the board by female members enhance the board’s ability to exercise their monitoring role effectively.

Comparing this result with other related empirical studies, this finding contradicts the results of (see Chen, 2016; James et al., 2016) observing that female boards provide tougher monitoring of the management activities and can negatively affect firm performance. The possible reason accounting for this result is that gender diversity is likely to reduce agency conflict by adopting a governance mechanism that encourages managers to work in the interest of shareholders. As observed from the descriptive analysis, the sampled firms are less diverse. This gives an indication to suggest that the mere presence of a less female director may not be sufficient enough to contribute to monitoring intensity. This is because minority group members often considered as a mere token may find it more difficult to voice their opinions and be heard (Kutum, 2015).

Consistent with agency theory and other empirical studies, the results suggest that board skill is positively related to firm performance. This result may imply that having financially literate members on the board enhances firm performance. This result confirms the assertion that the presence of financial literate members on the board is an important governance mechanism (Aguilera et al, 2015; Arnegger et al., 2016). These studies generally observe that having board members with finance and accounting expertise can help to improve the financial reporting process. This result also supports the recommendations of the code of best practices in Ghana and Nigeria. These codes stipulate that the Audit Committee should be composed of at least three directors with finance and accounting experience. The expectation is that board members with finance and accounting will improve the financial reporting process and the monitoring function of the board. The following reasons may explain this result: First, the presence of financially literate members improves the monitoring function and improves firm performance. For instance, Lanfranco and Robertson (2002) cite that the collapse of Enron and WorldCom is partly attributed to a lack of financial knowledge of their board members to understand the complex financial planning structures of the firm. Once monitoring is improved, decision, and plans that are detrimental to shareholders are avoided and this may improve performance. Secondly, the presence of financially literate members provides in-depth analysis of the financial statement to identify the strengths and weaknesses of the firm, and these influence future decisions making and enhancing firm performance.
The result of the study suggests a positive and statistically significant relationship between board monitoring intensity and firm performance. This result indicates that, as firm monitoring intensity increases, firm performance improves. This presupposes that, as monitoring intensity increases by one percent, firm performance increases by 42%. Theoretically, this result is consistent with agency theory that indicates that corporate boards that intensely monitor managers increase the ability of the board to effectively advise, discipline management, and thereby improving corporate financial performance (Shapiro et al., 2015). This also provides support for the findings of prior studies (Ntim 2015) that report a positive association between board monitoring intensity and firm performance. However, this result is inconsistent with those that report a negative relationship (Lahlou and Navatte, 2013). The result also supports the code of best practices in these countries encouraging the corporate board to monitoring managers.

One key objective of this study is to examine the mediation role of board monitoring intensity on the relationship between board composition and firm performance. This result shows the dual role of board monitoring intensity and corporate governance research on firm performance. It is both a predictor of firm performance and a mediator variable in the relationship between board independence, board skills, and firm performance.

First, the positive relationship between board monitoring intensity and firm performance is consistent with some empirical studies (Bhatt, et al., 2015). The results support agency theory proposition that the intensity of board monitoring improves firm performance by identifying investment that is relevant to the firm.

Secondly, comparing the model before introducing board monitoring intensity (the mediating variable) to the model after introducing board monitoring intensity, the direct effect of board independence and board skills on firm performance becomes statistically insignificant when the mediator variable is introduced. This result indicates that board independence and board skills influence firm performance through board monitoring. This result implies that board skills and independence exert influence over board monitoring intensity, and that influence translates into superior firm performance. This mediation results point out that, the effects of boards on firm performance are highly complex and multi-staged.

In contrast, comparing this result and without the mediating effect models, the direct effect of gender diversity on firm performance increases and remain significant when the mediator variable is introduced in the model. Gender diversity does not affect board monitoring intensity but significantly affects firm performance. Thus, indicating that board gender diversity does not affect firm performance through board monitoring intensity.

CONCLUSIONS AND IMPLICATIONS

The purpose of this paper is empirically examining the effect of board composition on firm performance in an emerging market context. This is done through exploring whether board composition measures affect firm performance and if so, whether the effect is mediated by board monitoring intensity. First, previous studies examining direct links between board composition measures and performance without considering the processes through which board composition influences firm performance. Few once do not account for endogeneity. The study result which is robust to different forms of endogeneity indicates that in emerging economies particularly Nigeria and Ghana, the board size, independence, gender diversity, and skill affect firm performance. The study further finds that board monitoring intensity mediates the relationship between board independence, skills, and firm performance, and partially mediate board size and firm performance relationship.

The above results have significant theoretical and practical implications. First, it supports agency theory that the inclusion of a greater proportion of independent outside directors and accounting and finance experts as board members in corporate boards in emerging economies improves monitoring and firm performance. The study has some practical implications for firms. The relationship identified in this study contributes to the understanding of the contextual relationship between board composition and firm performance in an emerging market context. This is intended to provide insight for the design of future research to incorporate the role of board monitoring intensity into the role of how board attributes affect firm performance.

Whilst the results reported are reliable and significant, the limitations associated with the study need to be acknowledged explicitly. We limited our analysis to board composition as a result of data availability. As more data become available, researchers may consider including other board attributes such as structure and process. Also, similar to other archival studies, our variables employed as measures for performance and board composition may or may not represent how boards, managers, and shareholder’s relationships operate in practice. Methodologically, more insights may be obtained by future studies by conducting in-depth interviews with boards, managers, and shareholders.

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